[Sheldon L. Hitchcock]
[HSE Coordinator]

January 2, 2019

Christina Hernandez
Oil Conservation Division, District 1
1625 N. French Dr.
Hobbs, NM 88240

Shelly Tucker
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

Re: Closure Letter
Harrier 35 Federal Com #001H
API #: 30-025-40572
RP#: 1RP-5105
Unit Letter G, Section 35, Township 25S, Range 32 E
Lea County, New Mexico

Ms. Hernandez/Ms. Tucker,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the Harrier 35 Federal Com #001H. This release occurred on June 17, 2018. Following the release an assessment of impacted soils was conducted. A remediation work plan was submitted to and subsequently approved by the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM). A copy of the approved work plan is attached in Appendix V.

BACKGROUND

The Harrier 35 Federal Com #001H is located in Unit Letter G, Section 35, Township 25 South and Range 32 East in Lea County, New Mexico. More specifically the latitude and longitude for this release are 32.0888481 North and -103.6419449 West.

On June 17, 2018, a leak on a flowline resulted in the release of approximately fifteen (15) barrels (bbls) of produced water and one-half (0.5) bbl of oil. All of the fluid remained on location.

Remediation activities were conducted in accordance with the approved work plan and NMOCD/BLM stipulations. The analytical results from the NMOCD and BLM stipulated confirmation soil sampling activities are summarized in the table below. A site diagram of the excavated area is presented in Appendix I.

GROUNDWATER AND SITE RANKING

According New Mexico Office of the State Engineer groundwater in the project vicinity is approximately one-hundred and fifty-five (155) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is zero (0) based on the following:

Depth to groundwater	>100-feet
Distance to surface water body	>1000-feet
Wellhead Protection Area	>1000-feet

CONFIRMATION SOIL SAMPLING RESULTS

Sample ID	Sample Depth (ft)	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
		In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
NMOCD RRAL Limits (mg/kg)				-	-	-	2,500	-	-	1,000	10	50	20,000
N-1	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	176
S-1	N/A		X	<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	656
S-2	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	32
W-2	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	224
W-3	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	80
E-1	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	384
E-2	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	64
S-1	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	416
W-1	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	560
E-4	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	256
N-2	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	304
N-3	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	192
N-4	N/A	X		<10.0	<10.0	<10.0	0.0	<10.0	<10.0	0.0	<0.050	<0.300	528

REMEDIAL ACTIONS

- The impacted area was excavated to a depth of four (4) feet BGS.
- Confirmation soil samples were taken from the sidewalls of the excavated area per NMOCD and BLM stipulations.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Upon receipt of analytical results confirming that all impacted soil above NMOCD RRAL's was successfully removed from the sidewalls, a liner was installed at the bottom of the excavation in order to encapsulate the remaining chloride impacts.
- The excavation was backfilled with caliche and contoured to match the surrounding location.

January 2, 2019

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Harrier 35 Federal Com #001H incident that occurred on June 17, 2018.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,

Sheldon Hitchcock

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

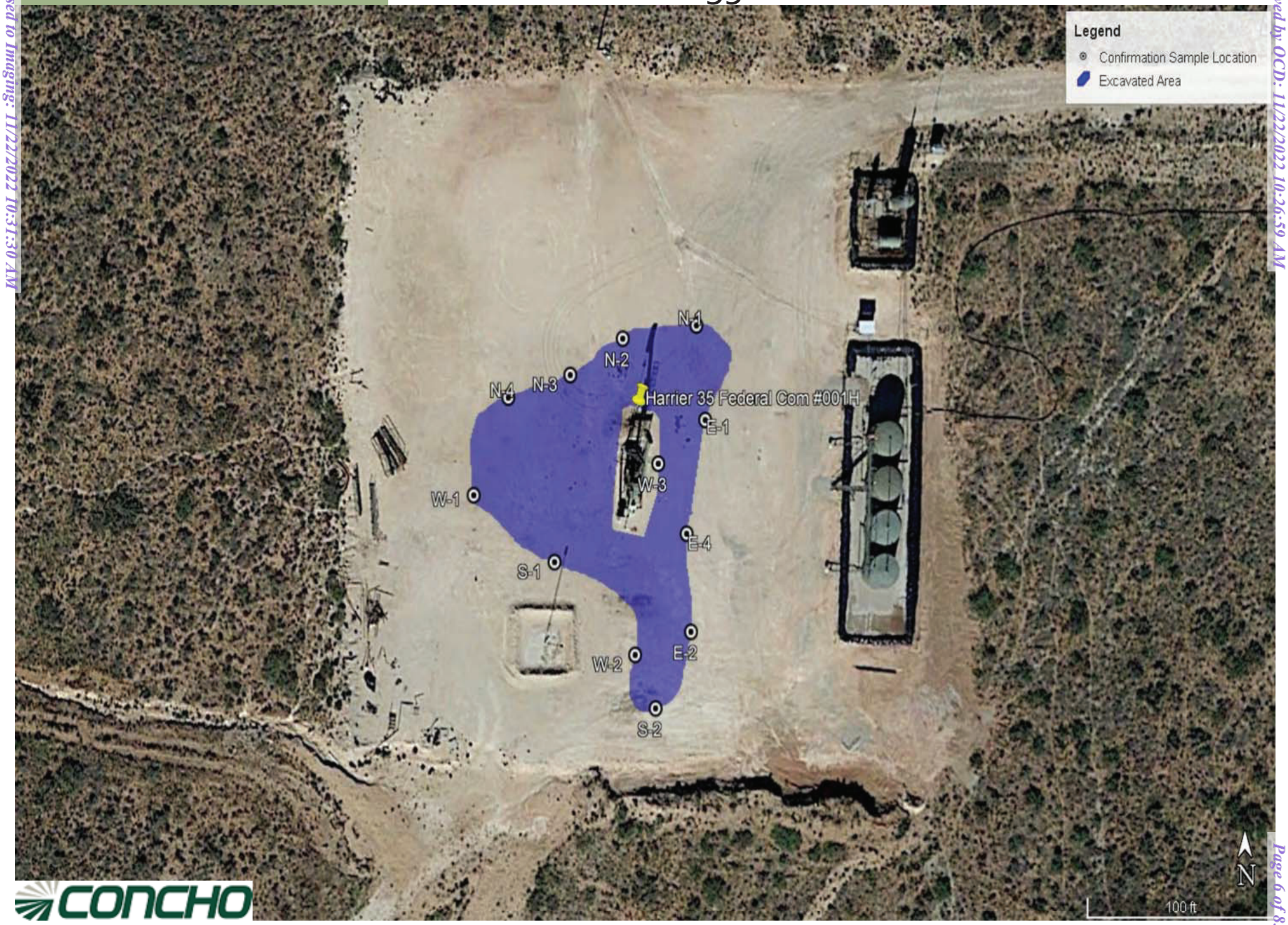
Enclosed:

Appendix I: Site Diagram
Appendix II: Groundwater Data
Appendix III: Initial C-141 (Copy)
Appendix IV: Final C-141
Appendix V: Work Plan (Copy)
Appendix VI: Analytical Reports and Chain-of-Custody Forms
Appendix VII: Photographic Documentation

APPENDIX I

June 17, 2018

Harrier 35 Federal Com #001H



CONCHO

APPENDIX II

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04209 POD1		CUB	LE	2	3	3	06	26S	32E	620903	3548619	7518	360	155	205
C 04209 POD2		C	LE	2	3	3	06	26S	32E	620818	3548657	7586	340	155	185
C 03829 POD1		CUB	LE	3	3	1	06	26S	32E	620628	3549186	7618	646	350	296
C 02271	R	CUB	LE		2	3	21	26S	32E	624449	3544111*	7821	150	125	25
C 03595 POD1		CUB	LE	4	2	3	21	26S	32E	624423	3544045	7891	280	180	100
C 02271 POD2		CUB	LE	3	2	3	21	26S	32E	624348	3544010*	7957	270	250	20
C 02323		C	LE	3	2	3	21	26S	32E	624348	3544010*	7957	405	405	0

Average Depth to Water: **231 feet**

Minimum Depth: **125 feet**

Maximum Depth: **405 feet**

Record Count: 7

Basin/County Search:

County: Lea

UTMNAD83 Radius Search (in meters):

Easting (X): 628009 **Northing (Y):** 3551075 **Radius:** 8000

***UTM location was derived from PLSS - see Help**

APPENDIX III

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC (OGRID #229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: **Harrier 35 Federal Com #001H**	Facility Type: Flowline

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-40572

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	35	25S	32E	1,980	North	1,500	East	Lea

Latitude 32.0888481 **Longitude** -103.6419449 NAD83

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 0.5 bbl. Oil 15 bbl. Produced Water	Volume Recovered: 0 bbl. Oil 0 bbl. Produced Water
Source of Release: Flowline Leak	Date and Hour of Occurrence: June 17, 2018 3:30pm	Date and Hour of Discovery: June 17, 2018 3:30pm
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 9:48 am, Jun 21, 2018

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a flowline leak. The flowline is being replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: DeAnn Grant	OIL CONSERVATION DIVISION
Printed Name: DeAnn Grant	Approved by Environmental Specialist:
Title: HSE Administrative Assistant	Approval Date: 6/21/2018 Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: see attached directive Attached ☑
Date: June 18, 2018 Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

1RP-5105

nOY1817237904

pOY1817238188

APPENDIX IV

District I
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District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Robert McNeill	Contact Telephone	(432) 683-7443
Contact email	RMcNeill@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.0888481 Longitude -103.6419449

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Harrier 35 Federal Com #001H	Site Type	Tank Battery
Date Release Discovered	6/18/2018	API# *(if applicable)*	30-025-40572

Unit Letter	Section	Township	Range	County
G	35	25S	32E	Lea

Surface Owner: ☐ State ■ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

■ Crude Oil	Volume Released (bbls) 0.5	Volume Recovered (bbls) 0
■ Produced Water	Volume Released (bbls) 15	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	■ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A hole in the flowline developed due to corrosion.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

- ■ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ■ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ■ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ■ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: _____

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Brittany Hall Date: 11/22/2022

Printed Name: Brittany Hall Title: Environmental Specialist

APPENDIX V

BBC INTERNATIONAL INCORPORATED

PHONE (575) 397-6388 • FAX (575) 397- 0397 • 1324 W. MARLAND • P.O. BOX 805 • HOBBS, NM 88241-0805
E-MAIL: cbrunson@bbcinternational.com

DELINEATION WORKPLAN

COG – HARRIER 35 FED COM 1H
(Leak Date: 6/17/18)

RP # 1RP-5105

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-5105.

The following information includes:

1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
4. Laboratory analysis results summary table and original laboratory analysis reports
5. A copy of the initial C-141
6. Potentially other pertinent information as necessary for site specific purposes.

Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

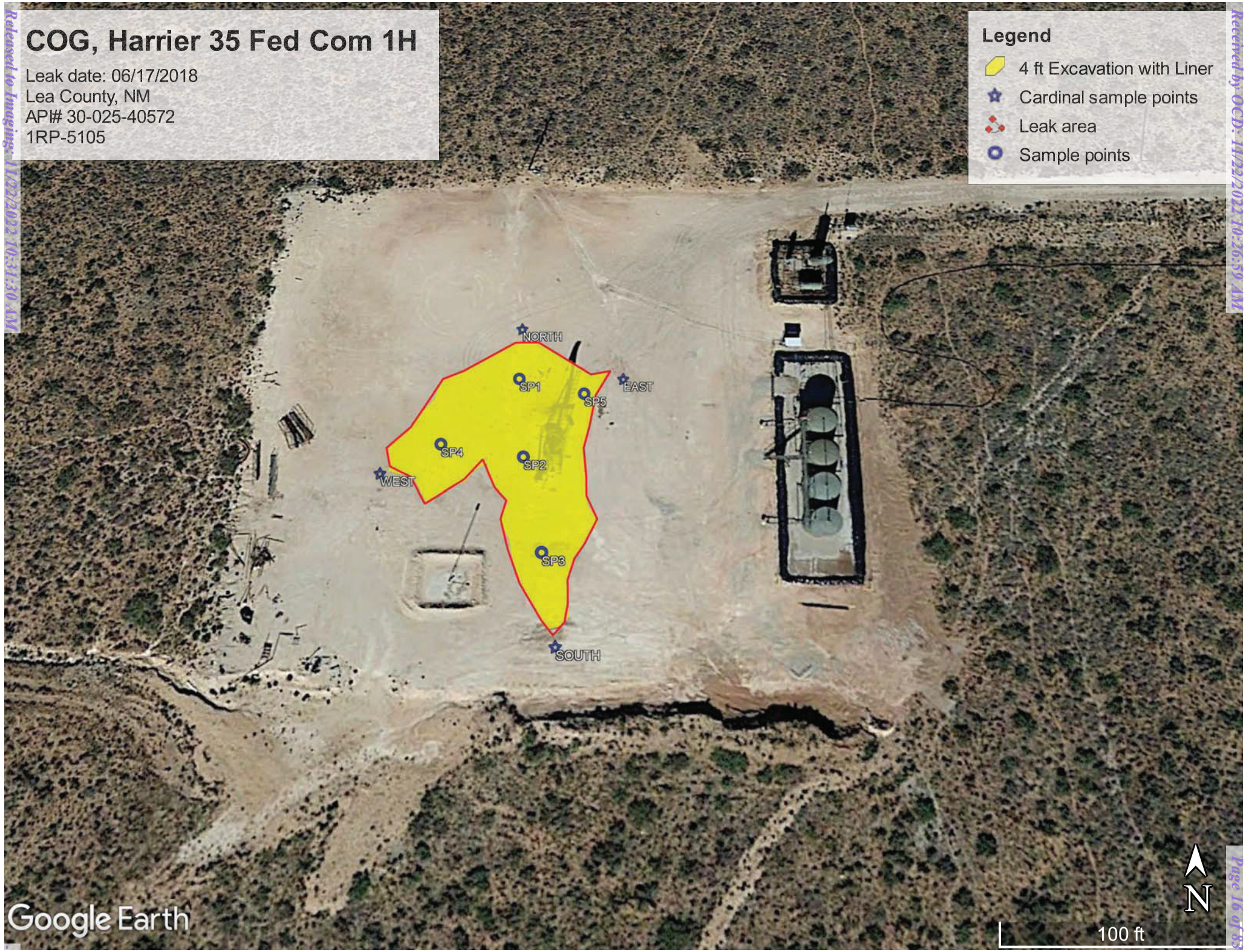
COG will excavate the spill area as depicted on the following site diagram. The entire leak area will be excavated to a depth of 4 feet with an impermeable liner placed in the bottom of the excavation.

The entire site will then be backfilled with clean soil and revegetated (if warranted) to the standards of the appropriate regulatory agency or private surface owner.

All excavated materials will be disposed of at an NMOCD-approved disposal facility.

COG, Harrier 35 Fed Com 1H

Leak date: 06/17/2018
Lea County, NM
API# 30-025-40572
1RP-5105



COG, Harrier 35 Fed Com 1H

Sample points

SP1, N 32.08883 W-103.64207

SP2, N 32.08870 W-103.64206

SP3, N 32.08856 W-103.64202

SP4, N 32.08873 W-103.64219

SP5, N 32.08881 W-103.64196

NORTH, N 32.08892 W-103.64207

SOUTH, N 32.08842 W-103.64200

EAST, N 32.08883 W-103.64190

WEST, N 32.08868 W-103.64228

COG, Harrier 35 Fed Com #001H

U/L G, Section 35, T25S, R32E

Groundwater: 250’

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 628009 **Northing (Y):** 3551075 **Radius:** 1700

Public Land Survey System (PLSS)

Q64: Q16: SW Q4: NE Sec: 35 Tws: 25S Rng: 32E

State Plane Coordinate System - NAD27

X: 0 ft Y: 0 ft Zone:

State Plane Coordinate System - NAD83

X: 0 ft Y: 0 ft Zone:

Degrees/Minutes/Seconds

Longitude (X): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

Latitude (Y): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

UTM - NAD27

Easting (X): 0 mtrs Northing (Y): 0 mtrs Zone:

SUBMIT

All Conversion Results are displayed as NAD 1983 UTM Zone 13

Easting (X): 628009.0 mtrs Northing (Y): 3551075.0 mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~

Laboratory Analytical Results Summary
Harrier 35 Fed Com #001H (6/17/18)

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 4'	SP1 @ 6'	SP1 @ 8'	SP1 @ 10'
Analyte	Method	Date	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.100	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		**0.165**	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		**0.477**	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		**4.09**	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		**4.73**	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**10700**	**2240**	**5840**	**7760**	**2600**	**2120**	**512**
GRO	TPH 8015M		**190**	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		**20900**	**220**	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		**3630**	**37.5**	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP5 @ SURFACE	SP5 @ 1'	SP5 @ 2'	SP5 @ 4'	SP5 @ 6'	SP5 @ 7'	SP5 @ 8'
Analyte	Method	Date	7/11/18	7/11/18	7/11/18	7/11/18	7/11/18	7/11/18	7/23/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		**0.057**	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		**0.231**	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**2880**	**5280**	**8080**	**3280**	**3000**	**896**	**16**
GRO	TPH 8015M		<100	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		**27800**	**27.1**	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		**5690**	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 4'	SP2 @ 6'	SP2 @ 8'	SP2 @ 10'	SP2 @ 12'
Analyte	Method	Date	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.200	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	**0.57**	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	**0.921**	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	**9.24**	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	**10.7**	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**2160**	**26000**	**8660**	**7730**	**2800**	**2720**	**1630**	**496**
GRO	TPH 8015M		<50.0	**690**	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		**13400**	**62700**	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		**2760**	**9270**	n/a	n/a	n/a	n/a	n/a	n/a

Cardinal		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	7/11/18	7/11/18	7/11/18	7/11/18	7/23/18	7/23/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		**464**	**480**	**976**	**1040**	**16**	**32**
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	n/a	n/a

		Sample ID	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 6'
Analyte	Method	Date	7/10/18	7/10/18	7/10/18	7/10/18	7/10/18	7/23/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		**0.055**	<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		**0.221**	<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**42000**	**736**	**1840**	**1500**	**1090**	**32**
GRO	TPH 8015M		<10.0	**10.5**	n/a	n/a	n/a	n/a
DRO	TPH 8015M		**1980**	**785**	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		**797**	**147**	n/a	n/a	n/a	n/a

		Sample ID	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 2'	SP4 @ 4'	SP4 @ 6'	SP4 @ 7'	SP4 @ 8'
Analyte	Method	Date	7/11/18	7/11/18	7/11/18	7/11/18	7/11/18	7/11/18	7/23/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		**0.064**	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		**0.298**	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		**0.361**	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**3040**	**4120**	**8560**	**8480**	**6720**	**864**	<16.0
GRO	TPH 8015M		<100	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		**24900**	**16.1**	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		**5030**	<10.0	n/a	n/a	n/a	n/a	n/a

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 18, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: HARRIER 35 FED COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 07/13/18 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ SURFACE (H801915-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	**0.165**	0.100	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	**0.477**	0.100	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	**4.09**	0.300	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	**4.73**	0.600	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *140 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10700**	16.0	07/16/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**190**	100	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**20900**	100	07/17/2018	ND	174	86.8	200	19.0	QM-07, QR-03
EXT DRO >C28-C36	**3630**	100	07/17/2018	ND					

Surrogate: 1-Chlorooctane *127 %* *41-142*

Surrogate: 1-Chlorooctadecane *1080 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1' (H801915-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2240**	16.0	07/16/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**220**	10.0	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**37.5**	10.0	07/17/2018	ND					

Surrogate: 1-Chlorooctane *93.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *98.2 %* *37.6-147*

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 2' (H801915-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5840**	16.0	07/16/2018	ND	416	104	400	0.00	

Sample ID: SP 1 @ 4' (H801915-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7760**	16.0	07/16/2018	ND	416	104	400	0.00	

Sample ID: SP 1 @ 6' (H801915-05)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2600**	16.0	07/16/2018	ND	416	104	400	0.00	

Sample ID: SP 1 @ 8' (H801915-06)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2120**	16.0	07/16/2018	ND	416	104	400	0.00	

Sample ID: SP 1 @ 10' (H801915-07)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	07/16/2018	ND	416	104	400	0.00	

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Analytical Results For:

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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ SURFACE (H801915-08)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2160**	16.0	07/16/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**13400**	50.0	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**2760**	50.0	07/17/2018	ND					

Surrogate: 1-Chlorooctane *120 %* *41-142*

Surrogate: 1-Chlorooctadecane *841 %* *37.6-147*

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Analytical Results For:

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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 1' (H801915-09)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	**0.570**	0.200	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	**0.921**	0.200	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	**9.24**	0.600	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	**10.7**	1.20	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *134 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**26000**	16.0	07/16/2018	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**690**	100	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**62700**	100	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**9270**	100	07/17/2018	ND					

Surrogate: 1-Chlorooctane *82.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *2930 %* *37.6-147*

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 2' (H801915-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8660**	16.0	07/16/2018	ND	400	100	400	3.92	QM-07

Sample ID: SP 2 @ 4' (H801915-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7730**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 2 @ 6' (H801915-12)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2800**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 2 @ 8' (H801915-13)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2720**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 2 @ 10' (H801915-14)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1630**	16.0	07/16/2018	ND	400	100	400	3.92	

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Analytical Results For:

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P.O. Box 805
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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 12' (H801915-15)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**496**	16.0	07/16/2018	ND	400	100	400	3.92	

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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ SURFACE (H801915-16)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	**0.055**	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	**0.221**	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *113 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**42000**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**1980**	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**797**	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *96.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *195 %* *37.6-147*

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Analytical Results For:

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Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 1' (H801915-17)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**10.5**	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**785**	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**147**	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *99.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *129 %* *37.6-147*

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Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/10/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 2' (H801915-18)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1840**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 3 @ 3' (H801915-19)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1500**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 3 @ 4' (H801915-20)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1090**	16.0	07/16/2018	ND	400	100	400	3.92	

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Cliff Brunson
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Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ SURFACE (H801915-21)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	**0.064**	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	**0.298**	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	**0.361**	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *119 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3040**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<100	100	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**24900**	100	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**5030**	100	07/17/2018	ND					

Surrogate: 1-Chlorooctane *122 %* *41-142*

Surrogate: 1-Chlorooctadecane *1380 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 1' (H801915-22)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *117 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4120**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**16.1**	10.0	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/17/2018	ND					

Surrogate: 1-Chlorooctane *103 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.6 %* *37.6-147*

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 2' (H801915-23)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8560**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 4 @ 4' (H801915-24)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8480**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 4 @ 6' (H801915-25)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**6720**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 4 @ 7' (H801915-26)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**864**	16.0	07/16/2018	ND	400	100	400	3.92	

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ SURFACE (H801915-27)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	**0.057**	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	**0.231**	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2880**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<100	100	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**27800**	100	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	**5690**	100	07/17/2018	ND					

Surrogate: 1-Chlorooctane *123 %* *41-142*

Surrogate: 1-Chlorooctadecane *1550 %* *37.6-147*

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Analytical Results For:

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Cliff Brunson
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Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ 1' (H801915-28)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5280**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/17/2018	ND	200	100	200	4.52	
DRO >C10-C28*	**27.1**	10.0	07/17/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/17/2018	ND					

Surrogate: 1-Chlorooctane *104 %* *41-142*

Surrogate: 1-Chlorooctadecane *99.4 %* *37.6-147*

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Analytical Results For:

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Cliff Brunson
P.O. Box 805
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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 5 @ 2' (H801915-29)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8080**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 5 @ 4' (H801915-30)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3280**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 5 @ 6' (H801915-31)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3000**	16.0	07/16/2018	ND	400	100	400	3.92	

Sample ID: SP 5 @ 7' (H801915-32)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**896**	16.0	07/16/2018	ND	400	100	400	3.92	

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Analytical Results For:

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Cliff Brunson
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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: NORTH @ SURFACE (H801915-33)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	<10.0	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *82.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *75.7 %* *37.6-147*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: EAST @ SURFACE (H801915-34)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**480**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	<10.0	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *89.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *81.1 %* *37.6-147*

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: WEST @ SURFACE (H801915-35)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**976**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	<10.0	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *95.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *88.0 %* *37.6-147*

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Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
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Fax To: (575) 397-0397

Received:	07/13/2018	Sampling Date:	07/11/2018
Reported:	07/18/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SOUTH @ SURFACE (H801915-36)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/17/2018	ND	1.89	94.4	2.00	0.871	
Toluene*	<0.050	0.050	07/17/2018	ND	1.83	91.7	2.00	0.206	
Ethylbenzene*	<0.050	0.050	07/17/2018	ND	1.84	92.2	2.00	1.52	
Total Xylenes*	<0.150	0.150	07/17/2018	ND	5.72	95.3	6.00	1.24	
Total BTEX	<0.300	0.300	07/17/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1040**	16.0	07/16/2018	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2018	ND	200	100	200	4.52	
DRO >C10-C28*	<10.0	10.0	07/16/2018	ND	174	86.8	200	19.0	
EXT DRO >C28-C36	<10.0	10.0	07/16/2018	ND					

Surrogate: 1-Chlorooctane *95.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.2 %* *37.6-147*

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

1 of 4

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:**	**City:**	
Project Name:	Harrier 35 Fed Com #1H	**State:** **Zip:**	
Project Location:		**Phone #:**	
Sampler Name:	Roger Hernandez	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH EXT.	BTEX	Cl-
H801915																	
1	SP1 @ Surface	C	1			✓					✓		7.10.18	933	✓	✓	✓
2	@ 1'	C	1			✓					✓		7.10.18	940	✓	✓	✓
3	@ 2'	C	1			✓					✓		7.10.18	950			✓
4	@ 4'	C	1			✓					✓		7.10.18	1022			✓
5	@ 6'	C	1			✓					✓		7.10.18	1045			✓
6	@ 8'	C	1			✓					✓		7.10.18	1122			✓
7	@ 10'	C	1			✓					✓		7.10.18	1212			✓
8	SP2 @ Surface	C	1			✓					✓		7.10.18	1255	✓	✓	✓
9	1	C	1			✓					✓		7.10.18	101	✓	✓	✓
10	2	C	1			✓					✓		7.10.18	111			✓

Relinquished By:	**Date:** 7.13.18	**Received By:**	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
Roger Hernandez	**Time:** 7:45	Tamara Oldaker	Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	**Date:**	**Received By:**	REMARKS:	
	Time:			

Delivered By: (Circle One) Sampler - UPS - Bus - Other: -3.3°c Corrected -3.3°c

Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No

CHECKED BY: (Initials) TO-#75

Has some head Space

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 9

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:**	**City:**	
Project Name:	Harrier 35 Fed #1H Com	**State:** **Zip:**	
Project Location:		**Phone #:**	
Sampler Name:		**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	TPH EXT.	BTEX	CL.								
H801915																									
11	SP2 @ 4'	C	1			✓					✓		7-10-18	1133			✓								
12	@ 6'	C	1			✓					✓		7-10-18	152			✓								
13	@ 8'	C	1			✓					✓		7-10-18	229			✓								
14	@ 10'	C	1			✓					✓		7-10-18	300			✓								
15	@ 12'	C	1			✓					✓		7-10-18	333			✓								
16	SP3 @ Surface	C	1			✓					✓		7-10-18	335	✓	✓	✓								
17	@ 1'	C	1			✓					✓		7-10-18	340	✓	✓	✓								
18	@ 2'	C	1			✓					✓		7-10-18	347			✓								
19	@ 3'	C	1			✓					✓		7-10-18	355			✓								
20	@ 4'	C	1			✓					✓		7-10-18	409			✓								

Relinquished By:	**Date:** 7-13-18	**Received By:**	**Phone Result:** ☐ Yes ☐ No	**Add'l Phone #:**
Roger Hernandez	**Time:** 7:45	Tamara Oldaker	**Fax Result:** ☐ Yes ☐ No	**Add'l Fax #:**
Relinquished By:	**Date:**	**Received By:**	**REMARKS:**	
	Time:			

Delivered By: (Circle One) — 3.3°
Sampler - UPS - Bus - Other: Corrected - 3.3°

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☐ Yes ☐ No	☐ Yes ☐ No	TC. #75

(Has some head space

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

3 of 4

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.		BILL TO	
Project Manager: Cliff Brunson		P.O. #:	
Address: P.O. Box 805		Company:	
City: Hobbs	State: NM Zip: 88241	Attn:	
Phone #: 575-397-6388	Fax #: 575-397-0397	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

ANALYSIS REQUEST: TPH Ext. | BTEX | Cl.

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH Ext.	BTEX	Cl.
H801915																	
21	SP4 @ SURFACE	G	1			✓					✓		7-11-18	945	✓	✓	✓
22	@ 1'	G	1			✓					✓		7-11-18	955	✓	✓	✓
23	@ 2'	G	1			✓					✓		7-11-18	911			✓
24	@ 4'	G	1			✓					✓		7-11-18	945			✓
25	@ 6'	G	1			✓					✓		7-11-18	1033			✓
26	@ 7'	G	1			✓					✓		7-11-18	1055			✓
27	SP5 @ SURFACE	G	1			✓					✓		7-11-18	1111	✓	✓	✓
28	@ 1	G	1			✓					✓		7-11-18	1122	✓	✓	✓
29	@ 2	G	1			✓					✓		7-11-18	1133			✓
30	@ 4	G	1			✓					✓		7-11-18	115			✓

Relinquished By: Roger Hernandez	Date: 7-13-18 Time: 7:45	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-3.3°C Corrected -3.3°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TO - #15

REMARKS: Has some head space

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4 of 4

CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	BILL TO	ANALYSIS REQUEST
Project Manager:	Cliff Brunson	P.O. #:	
Address:	P.O. Box 805	Company:	
City:	Hobbs State: NM Zip: 88241	Attn:	
Phone #:	575-397-6388 Fax #: 575-397-0397	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH EXT.	BTEX	Cl.
H801915																	
31	SPS C 6'	G	1			✓					✓		7.11.18	140			✓
32	C 7	G	1			✓					✓		7.11.18	150			✓
33	NORTH @ SURFACE	G	1			✓					✓		7.11.18	155	✓	✓	✓
34	EAST @ SURFACE	G	1			✓					✓		7.11.18	159	✓	✓	✓
35	WEST @ SURFACE	G	1			✓					✓		7.11.18	205	✓	✓	✓
36	SOUTH @ SURFACE	C	1			✓					✓		7.11.18	215	✓	✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Roger Hernandez	Date: 7.13.18 Time: 7:45	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	-3.3° Corrected -3.3°	Sample Condition Cool ☑ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials) T.E. #15

REMARKS: Has some head space

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 03, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: HARRIER 35 FED COM #1H

Enclosed are the results of analyses for samples received by the laboratory on 07/31/18 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/31/2018	Sampling Date:	07/23/2018
Reported:	08/03/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	(6/17/18)	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 6' (H802085-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	08/01/2018	ND	416	104	400	0.00	

Sample ID: SP 4 @ 8' (H802085-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/01/2018	ND	416	104	400	0.00	

Sample ID: SP 5 @ 8' (H802085-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	08/01/2018	ND	416	104	400	0.00	

Sample ID: WEST @ SURFACE (H802085-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	08/01/2018	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	07/31/2018	Sampling Date:	07/23/2018
Reported:	08/03/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1H	Sampling Condition:	Cool & Intact
Project Number:	(6/17/18)	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SOUTH @ SURFACE (H802085-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	08/01/2018	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

1 of 1

CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	BILL TO	
Project Manager:	Cliff Brunson	P.O. #:	
Address:	P.O. Box 805	Company:	COG
City:	Hobbs	State: NM Zip: 88241	Attn:
Phone #:	575-397-6388	Fax #: 575-397-0397	Address:
Project #:		Project Owner: COG	City:
Project Name:	Harrier 35 FED Com #1H (6/17/18)		State: Zip:
Project Location:			Phone #:
Sampler Name:	Jeff Ormelas		Fax #:

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chloride	
H802085																
1	SP3 @ 6'	G	1			✓					✓		7/23/18	1:00pm	✓	
2	SP4 @ 8'	G	1			✓					✓		7/23/18	2:03pm	✓	
3	SP5 @ 8'	G	1			✓					✓		7/23/18	3:15pm	✓	
4	West e surface	G	1			✓					✓		7/23/18	3:25pm	✓	
5	South e surface	G	1			✓					✓		7/23/18	3:30pm	✓	

7/31/18 PM

Relinquished By: Jeff Ormelas	Date: 7/31/18 Time: 8:00am	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 7-31-18 Time: 13:40	Received By: Tamara Oldaker	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	2.7°C Corrected 2.6°C	Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials) TO #25

REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC (OGRID #229137)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: **Harrier 35 Federal Com #001H**	Facility Type: Flowline

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-40572

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	35	25S	32E	1,980	North	1,500	East	Lea

Latitude 32.0888481 **Longitude** -103.6419449 NAD83

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 0.5 bbl. Oil 15 bbl. Produced Water	Volume Recovered: 0 bbl. Oil 0 bbl. Produced Water
Source of Release: Flowline Leak	Date and Hour of Occurrence: June 17, 2018 3:30pm	Date and Hour of Discovery: June 17, 2018 3:30pm
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 9:48 am, Jun 21, 2018

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a flowline leak. The flowline is being replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: DeAnn Grant	OIL CONSERVATION DIVISION
Printed Name: DeAnn Grant	Approved by Environmental Specialist:
Title: HSE Administrative Assistant	Approval Date: 6/21/2018 Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: see attached directive Attached ☑
Date: June 18, 2018 Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

1RP-5105

nOY1817237904

pOY1817238188

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _6/19/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5105__ has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _7/21/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

● Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

● Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

● Nominal detection limits for field and laboratory analyses must be provided.

● Composite sampling is not generally allowed.

● Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

●Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

● If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

● Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

APPENDIX VI

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 23, 2018

LUPE CARRASCO

M & M EXCAVATING, INC.

2737 PECOS HWY

CARLSBAD, NM 88220

RE: HARRIER 35 FED #1H

Enclosed are the results of analyses for samples received by the laboratory on 10/22/18 8:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: N 1 (H803019-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	10/22/2018	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *91.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *84.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: S 1 (H803019-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	10/22/2018	ND	432	108	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *100 %* *41-142*

Surrogate: 1-Chlorooctadecane *96.8 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: S 2 (H803019-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	10/22/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *97.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: W 2 (H803019-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	10/22/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *97.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *90.4 %* *37.6-147*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: W 3 (H803019-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	10/22/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *84.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *77.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: E 1 (H803019-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	10/22/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *84.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *77.6 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

M & M EXCAVATING, INC.
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: NONE

Received:	10/22/2018	Sampling Date:	10/19/2018
Reported:	10/23/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED #1H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: E 2 (H803019-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2018	ND	1.99	99.3	2.00	2.00	
Toluene*	<0.050	0.050	10/22/2018	ND	1.92	95.9	2.00	0.368	
Ethylbenzene*	<0.050	0.050	10/22/2018	ND	1.94	97.1	2.00	1.19	
Total Xylenes*	<0.150	0.150	10/22/2018	ND	5.60	93.3	6.00	0.537	
Total BTEX	<0.300	0.300	10/22/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	10/22/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2018	ND	206	103	200	1.38	
DRO >C10-C28*	<10.0	10.0	10/22/2018	ND	225	113	200	0.700	
EXT DRO >C28-C36	<10.0	10.0	10/22/2018	ND					

Surrogate: 1-Chlorooctane *97.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *91.2 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	MMX	**BILL TO**	
Project Manager:	Lupe Carrasco	P.O. #:	
Address:		Company:	COG
City:	State: Zip:	Attn:	Dakota Neel
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Harrier 35 Fed #1H	State:	Zip:
Project Location:		Phone #:	
Sampler Name:		Fax #:	

ANALYSIS REQUEST: BTEX, TPH, Chloride

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	BTEX	TPH	Chloride
H803019																	
1	N1	G	1			X							10/19/18		X	X	X
2	S1	G	1			X									X	X	X
3	S2	G	1			X									X	X	X
4	W2	G	1			X									X	X	X
5	W3	G	1			X									X	X	X
6	E1	G	1			X									X	X	X
7	E2	G	1			X									X	X	X

Relinquished By:	Date: 10/22/18	Received By:	Tamara Oldaker
	Time: 8:20am		
Relinquished By:	Date:	Received By:	
	Time:		

Phone Result:	☐ Yes ☐ No	Add'l Phone #:	
Fax Result:	☐ Yes ☐ No	Add'l Fax #:	
REMARKS:	Lupemmx.inc@gmail.com		

Rush!

Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	0.4°C #97	TO

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 30, 2018

LUPE CARRASCO

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: HARRIER 35 FED COM #1

Enclosed are the results of analyses for samples received by the laboratory on 10/29/18 9:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	10/29/2018	Sampling Date:	10/19/2018
Reported:	10/30/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S 1 (H803078-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2018	ND	1.99	99.4	2.00	6.16	
Toluene*	<0.050	0.050	10/29/2018	ND	1.87	93.7	2.00	6.71	
Ethylbenzene*	<0.050	0.050	10/29/2018	ND	1.86	92.8	2.00	6.60	
Total Xylenes*	<0.150	0.150	10/29/2018	ND	5.61	93.5	6.00	6.08	
Total BTEX	<0.300	0.300	10/29/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *91.0 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	10/29/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/29/2018	ND	205	102	200	11.3	
DRO >C10-C28*	<10.0	10.0	10/29/2018	ND	213	106	200	5.97	
EXT DRO >C28-C36	<10.0	10.0	10/29/2018	ND					

Surrogate: 1-Chlorooctane *101 %* *41-142*

Surrogate: 1-Chlorooctadecane *95.3 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	10/29/2018	Sampling Date:	10/19/2018
Reported:	10/30/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: W 1 (H803078-02)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/29/2018	ND	1.99	99.4	2.00	6.16	
Toluene*	<0.050	0.050	10/29/2018	ND	1.87	93.7	2.00	6.71	
Ethylbenzene*	<0.050	0.050	10/29/2018	ND	1.86	92.8	2.00	6.60	
Total Xylenes*	<0.150	0.150	10/29/2018	ND	5.61	93.5	6.00	6.08	
Total BTEX	<0.300	0.300	10/29/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.2 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	10/29/2018	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/29/2018	ND	205	102	200	11.3	
DRO >C10-C28*	<10.0	10.0	10/29/2018	ND	213	106	200	5.97	
EXT DRO >C28-C36	<10.0	10.0	10/29/2018	ND					

Surrogate: 1-Chlorooctane *90.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

Z-01	Surrogates not added to this ms/msd.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

		BILL TO	
Company Name:	MMX	P.O. #:	
Project Manager:	Lupe Carrasco	Company:	COG
Address:		Attn:	Dakota Neel
City:	State: Zip:	Address:	
Phone #:	Fax #:	City:	
Project #:	Project Owner:	State: Zip:	
Project Name:	Harrier 35 Fed Com #1	Phone #:	
Project Location:		Fax #:	
Sampler Name:			

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chlorides
H803078																	
1	S1	X				X							10/19/18		X	X	X
2	W1	X				X							10/19/18		X	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 10/29/18	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 9:50		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: *Rush
	Time:		~~Lupe~~ lupemmxinc@gmail.com
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other: 1.9°C / #97	Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	JH	

* Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

November 06, 2018

LUPE CARRASCO

MMX

2737 PECOS HWY

CARLSBAD, NM 88220

RE: HARRIER 35 FED COM #1 H

Enclosed are the results of analyses for samples received by the laboratory on 11/05/18 10:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	11/05/2018	Sampling Date:	11/02/2018
Reported:	11/06/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1 H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: E 4 (H803162-01)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/06/2018	ND	1.73	86.4	2.00	1.09	
Toluene*	<0.025	0.025	11/06/2018	ND	1.82	91.2	2.00	0.791	
Ethylbenzene*	<0.025	0.025	11/06/2018	ND	1.78	89.0	2.00	1.33	
Total Xylenes*	<0.075	0.075	11/06/2018	ND	5.71	95.2	6.00	2.97	
Total BTEX	<0.150	0.150	11/06/2018	ND					

Surrogate: Dibromofluoromethane	*101 %*	*90.4-111*
Surrogate: Toluene-d8	*103 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*90.5 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	11/05/2018	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2018	ND	184	92.2	200	2.91	
DRO >C10-C28*	<10.0	10.0	11/05/2018	ND	208	104	200	1.90	
EXT DRO >C28-C36	<10.0	10.0	11/05/2018	ND					

Surrogate: 1-Chlorooctane	*95.6 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*93.3 %*	*37.6-147*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	11/05/2018	Sampling Date:	11/02/2018
Reported:	11/06/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1 H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: N 2 (H803162-02)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/06/2018	ND	1.73	86.4	2.00	1.09	
Toluene*	<0.025	0.025	11/06/2018	ND	1.82	91.2	2.00	0.791	
Ethylbenzene*	<0.025	0.025	11/06/2018	ND	1.78	89.0	2.00	1.33	
Total Xylenes*	<0.075	0.075	11/06/2018	ND	5.71	95.2	6.00	2.97	
Total BTEX	<0.150	0.150	11/06/2018	ND					

Surrogate: Dibromofluoromethane	*101 %*	*90.4-111*
Surrogate: Toluene-d8	*102 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*91.4 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	11/05/2018	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2018	ND	184	92.2	200	2.91	
DRO >C10-C28*	<10.0	10.0	11/05/2018	ND	208	104	200	1.90	
EXT DRO >C28-C36	<10.0	10.0	11/05/2018	ND					

Surrogate: 1-Chlorooctane	*83.5 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*83.8 %*	*37.6-147*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	11/05/2018	Sampling Date:	11/02/2018
Reported:	11/06/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1 H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: N 3 (H803162-03)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/06/2018	ND	1.73	86.4	2.00	1.09	
Toluene*	<0.025	0.025	11/06/2018	ND	1.82	91.2	2.00	0.791	
Ethylbenzene*	<0.025	0.025	11/06/2018	ND	1.78	89.0	2.00	1.33	
Total Xylenes*	<0.075	0.075	11/06/2018	ND	5.71	95.2	6.00	2.97	
Total BTEX	<0.150	0.150	11/06/2018	ND					

Surrogate: Dibromofluoromethane	*101 %*	*90.4-111*
Surrogate: Toluene-d8	*102 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*87.5 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	11/05/2018	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2018	ND	184	92.2	200	2.91	
DRO >C10-C28*	<10.0	10.0	11/05/2018	ND	208	104	200	1.90	
EXT DRO >C28-C36	<10.0	10.0	11/05/2018	ND					

Surrogate: 1-Chlorooctane	*86.8 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*84.8 %*	*37.6-147*

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

MMX
LUPE CARRASCO
2737 PECOS HWY
CARLSBAD NM, 88220
Fax To: (575) 236-6201

Received:	11/05/2018	Sampling Date:	11/02/2018
Reported:	11/06/2018	Sampling Type:	Soil
Project Name:	HARRIER 35 FED COM #1 H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: N 4 (H803162-04)

BTEX 8260B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	11/06/2018	ND	1.73	86.4	2.00	1.09	
Toluene*	<0.025	0.025	11/06/2018	ND	1.82	91.2	2.00	0.791	
Ethylbenzene*	<0.025	0.025	11/06/2018	ND	1.78	89.0	2.00	1.33	
Total Xylenes*	<0.075	0.075	11/06/2018	ND	5.71	95.2	6.00	2.97	
Total BTEX	<0.150	0.150	11/06/2018	ND					

Surrogate: Dibromofluoromethane	*96.8 %*	*90.4-111*
Surrogate: Toluene-d8	*102 %*	*85.3-114*
Surrogate: 4-Bromofluorobenzene	*88.8 %*	*80.1-121*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**528**	16.0	11/05/2018	ND	432	108	400	3.64	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	11/05/2018	ND	184	92.2	200	2.91	
DRO >C10-C28*	<10.0	10.0	11/05/2018	ND	208	104	200	1.90	
EXT DRO >C28-C36	<10.0	10.0	11/05/2018	ND					

Surrogate: 1-Chlorooctane	*82.8 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*82.0 %*	*37.6-147*

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

1 of 1

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	MMX	**BILL TO**	
Project Manager:	Lupe Carrasco	P.O. #:	
Address:		Company:	COG
City:	State: Zip:	Attn:	Dakota Neel
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Harrier 35 Fed Com #1H	State:	Zip:
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST		
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chlorides
H803162																	
1	E4	X				X							11/2/18		X	X	X
2	N2	X				X									X	X	X
3	N3	X				X									X	X	X
4	N4	X				X									X	X	X

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Relinquished By:	Date: 11-5-18	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 10:10		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Rush! lupemmxinc@gmail.com
	Time:		
Delivered By: (Circle One)	Sample Condition: Cool Yes / No; Intact Yes / No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other: 5.1 C	Yes / Yes	TO	

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

APPENDIX VII


NE
E
30
60
90
120
71°NE (T) 32.088816, -103.642003 ±5m 1024 m
Harrier 35 fed com 1H
08 Nov 2018, 12:09:57


SW
W
210
240
270
300
256°SW (T) 32.088884, -103.641914 ±6m 1006 m
Harrier 35 fed com 1H
08 Nov 2018, 09:46:48


W
NW
N
70
300
330
0
329°NW (T) 32.088531, -103.642086 ±8m 1011 m
Harrier 35 Fed com 1H
08 Nov 2018, 12:11:44

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 160810

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 160810
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	11/22/2022